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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/743,830 | 12/24/2003 | Hideo Tsuchiya | 247185US2SRD | 1135 |
| 22850 7590 07/03/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER NGUYEN, SANG H | |
| | | | ART UNIT 2886 | PAPER NUMBER |
| | | | NOTIFICATION DATE 07/03/2007 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/743,830

Applicant(s)

TSUCHIYA ET AL.

Examiner

Sang Nguyen

Art Unit

2886

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/05; 3/04; 12/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 04/28/05, 03/16/04, and 12/24/03 has been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **"a sample having a first and second inspection regions"** in claim 1; and the **"a first inspection region on which a first pattern is formed and a second inspection region on which a second pattern is formed"**, the **"a position recognizing unit"**, the **"a signal output unit"**, the **"a control unit"** in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Isomuara et al (U.S. Patent No. 6,285,783).

Regarding claim 1; Isomura et al discloses a pattern inspecting method, comprising:

preparing a sample (5 of figure 1) having a first and a second inspection regions (A of figure 1 or F of figure 22) and an imaging device (e.g., image sensor [57 of figure 1) having a plurality of pixels (col.2 lines 58-67 and col.3 lines 1-27);

scanning (56 of figure 1) the first inspection region (figures 1, 22, and 23A-23B) to a first direction (e.g., X direction in figure 23B) using the imaging device (57 of figure 1) to obtain a first measurement pattern (e.g., A of figure 1) representing at least parts of the first inspection region (pattern A of sample [55 of figure 1]);

scanning (56 of figure 1) the second inspection region (figures 1, 22, and 23A-23B) to the first direction (e.g., Y direction in figure 23B) using the imaging device (57 of figure 1) to obtain a second measurement pattern (e.g., A of figure 1) representing at least parts of the second inspection region (pattern A of sample [55 of figure 1]);

comparing (60 of figure 1) the first measurement pattern and the second measurement pattern with each other with a comparator circuit (60 of figure 1) to determine presence or absence of a defect formed on the sample (figure 1); and

controlling a scanning condition (e.g., a positioning circuit [207 of figure 22] coupled to a CPU [210 of figure 22]) for scanning a pattern of the second inspection region by the imaging device (57 of figure 1 or 205 of figure 22) and a laser measuring system (figure 22) so as to keep the same with the scanning condition when the pattern of the first inspection region is scanned by the imaging device (col.4 line 57 to col.60 and abstract). Figures 1-32.

Regarding claims 9; Isomura et al discloses a pattern inspecting apparatus comprising:

an emitting unit (e.g., a light source [203 of figure 22]) configured to emit to a sample (201 of figure 22) having a first inspection region on which a first pattern is

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formed and a second inspection region on which a second pattern is formed (figures 23A-23B, 24, and 25A-25B);

an imaging device (205, 206 of figure 22) that have detecting unit (206 of figure 22) that detect images from the samples (201 of figure 22);

a position recognizing unit (e.g., a positioning circuit [207 of figure 22]) configure to recognize a position of the sample (201 of figure 22) with respect to the detecting unit (206 of figure 22) and a laser measuring system (figure 22);

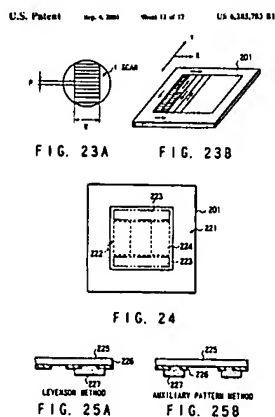
a signal output unit (e.g., a table control circuit [figure 22], autofocus control circuit [figure 22], and generation circuit [211 of figure 22]) configure to output a signal to output a relative signal according to a relative movement between the sample (201 of figure 22) and the detecting unit (205, 206 of figure 22); and

a control unit (e.g., a CPU [210 of figure 22]) configure to control a scanning condition (e.g., a positioning circuit [207 of figure 22] coupled to a CPU [210 of figure 22]) for scanning a pattern of the second inspection region by the imaging device (57 of figure 1 or 205 of figure 22) and a laser measuring system (figure 22) so as to keep the same with the scanning condition when the pattern of the first inspection region is scanned by the imaging device (col.4 line 57 to col.60 and abstract). Figures 1-32.



Regarding claim 3; Isomura et al discloses the pattern is an edge of the first or d inspection region (figures 23A-23B and 24).

Regarding claim 5; Isomura et al discloses the first measurement pattern contains a plurality of first image portions in the first inspection region, and the second measurement pattern contains a plurality of second image portions in the second inspection region. (figures 23A-23B and 24)



Regarding claims 6 and 14; Isomura et al discloses further comprising:
generating reference pattern data (figure 1) corresponding to the measurement pattern data (figure 1) from design data (figure 1) used when a pattern is formed on the sample (55 of figure 1); and comparing (60 of figure 1) the first and second measurement pattern data and the reference pattern data (figure 1) with each other to determine presence or absence of a defect of the pattern formed on the sample (figure 1 and abstract).

Regarding claims 7-8 and 13; Isomura et al discloses further comprising: a pattern memory (115 of figure 10) for storing a positional relationship of pixels of the imaging device (57 of figure 1) and the edge of the first inspection region (X, Y, L1, L2 of figure 10) when the edge of the first inspection region is scanned, wherein the step of storing stores a positional difference between the edge of the first inspection region (X, Y, L1, L2 of figure 10) and the pixel of the imaging device (57 of figure 1) as the positional relationship.

Regarding claims 11-12; Isomura et al discloses the emitting unit (203 of figure 22) configure to emit one of a light beam and an electron beam and imaging device (57 of figure 1) for detecting one of reflection light, transmission light, and a secondary electron.

Regarding claims 15-16; Isomura et al discloses the signal output unit outputs the relative signal on a predetermined timing (figure 1 as indicate multivalue data and threshold value) while the detecting unit detects one of the reflection light, the transmission light (from sample 55 of figure 1) and the secondary electron from the first and second inspection regions.

Regarding claims 17; Isomura et al discloses the signal output unit outputs the relative signal whenever the sample (55 of figure 1 or 201 of figure 22) moves by a predetermined distance (figure 1 and 22) relatively with respect to the detecting unit (57 of figure 1 or 205, 206 of figure 22).

Conclusion

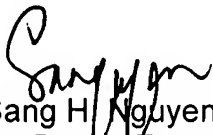
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sawa et al (6965687) discloses Size checking method and apparatus; Tsuchiya et al (6883160) discloses pattern inspection apparatus; Kuwabara (6229331) discloses apparatus for and method of inspecting patterns on semiconductor integrated devices; Tabata et al (5602645) discloses pattern evaluation apparatus and a method of pattern evaluation; or Tojo et al (5404410) discloses method and system for generating a bit pattern.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifu Chowdhury can be reached on (571) 272-2800 ext. 86. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 22, 2007


Sang H. Nguyen
Primary Patent Examiner
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